

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



Sta  
UNITED STATES DEPARTMENT OF AGRICULTURE  
Agricultural Marketing Service  
Cotton Division  
Washington 25, D. C.

COTTON FIBER AND PROCESSING TEST RESULTS  
CROP OF 1963

# COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1963

## Discussion of Test Results

Results of samples tested to date from South Texas (Harlingen and Corpus Christi classing office territories) show shorter and coarser fibers than last year. Fiber length uniformity, fiber strength, nonlint content, picker and card waste and yarn strength remain at essentially the same level as last year. Neps in card web are lower this year which is reflected in higher yarn appearance indexes.

Eight lots from the Austin, Texas classing office territory have been tested this season but no comparison was made because only three lots had been tested for the same period last year.

Results of tests on one lot from Georgia are also included in this report. No lots were tested from this area for the same period last year.

- - - - -

This is the third of a series of reports on the fiber and processing test results on the 1963 cotton crop. These reports are issued twice each month during the harvesting season and are summarized in a comprehensive report at the end of the season. This 1963 group of reports will give data on the same subject as AIB No. 273 - "Annual Cotton Quality Survey, Summary of Results of Fiber and Processing Tests from Selected Production Areas, Crop of 1962."

- - - - -

Prepared in the Standards and Testing Branch  
Cotton Division  
Agricultural Marketing Service

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through August 23, 1963 1/

Item	:Significant :Difference : 2/	South Texas <u>3/</u>	
		1962	1963
Fiber length (Fibrograph 2.5% span)..inches:	0.02	1.03	.98
Uniformity ratio (50/2.5).....percent:	2	46	46
Fineness (Micronaire).....reading:	0.2	4.4	4.7
Fiber strength (Pressley).....1,000 psi:	2	80	79
Nonlint content.....percent:	0.5	2.1	2.3
Picker and card waste.....percent:	0.5	7.9	7.7
Neps.....per 100 sq. in. of card web:	3	27	21
Strength of 22s yarn.....pounds:	4	99	96
Average yarn appearance.....index:	5	103	111
Number of lots tested	-	22	32

1/ Based on a limited number of samples of modal quality.

2/ Minimum difference considered to be significant for comparison of data in this table. These are guides developed from studies conducted by the Cotton Division, AMS.

3/ Harlingen and Corpus Christi classing offices.

Table 2.--Cotton: Results of classification, fiber tests, and carded yarn processing tests by state and production area, processed at a card production rate of 12-1/2 pounds per hour and a twist multiplier of 4.40, crop of 1963

Area	Southwestern			
State	South Texas		Central Tex.	
Production area	Corpus C.	Runge	Lockhart	
Predominant variety	Stnvl 213	Lankart 57	Anton 99	
Percentage of variety at gin	85	75	75	70
Triweekly sampling	Third	Second	Third	Second
RAW COTTON QUALITY				
Grade .....	Mltsp	Mltsp	Mltsp	Mltsp
Staple length .....	15/16	31/32	15/16	31/32
Fiber length (Digital Fibrograph):				
2.5% span length .....	.93	.92	.93	.97
Uniformity ratio (50/2.5) .percent	45	43	43	44
Fiber fineness and maturity:				
Micronaire .....	4.4	4.1	3.7	3.8
Fiber strength and elongation:				
Zero gauge strength .....1,000 psi	79	77	80	82
Zero gauge strength .....grams/tex	39.1	38.1	39.6	40.6
1/8-inch gauge strength ...grams/tex	20.8	19.8	20.8	20.6
1/8-inch gauge elongation...percent	5.6	7.0	6.9	6.4
Shirley Analyzer:				
Visible waste .....	1.8	1.5	1.8	0.8
Total visible & invisible..percent	2.8	2.8	3.3	1.4
Color of raw cotton:				
Reflectance .....	73.1	71.9	71.9	74.1
Yellowness .....	9.5	10.2	10.1	9.8
Code .....	553	554	553	503
PROCESSING RESULTS				
Picker and card waste .....	8.0	8.8	8.6	6.8
Neps.....per 100 sq. in. of card web	25	46	46	25
Yarn skein strength:				
8 s ( 73.8 tex) .....	283	285	296	315
22 s ( 26.8 tex) .....	90	89	93	100
Average break factor .....	2122	2119	2207	2360
Yarn skein elongation:				
8 s ( 73.8 tex) .....	6.7	6.7	6.7	6.9
22 s ( 26.8 tex) .....	5.7	6.1	5.6	6.1
Yarn appearance:				
8 s ( 73.8 tex).....	B+	B	B	B+
22 s ( 26.8 tex).....	C+	C+	C+	B
Average yarn appearance.....index	110	105	105	115
Yarn imperfections:				
8 s ( 73.8 tex) .....	73	106	84	48
22 s ( 26.8 tex) .....	54	65	56	30

Continued on page 5

Table 2.--Cotton: Results of classification, fiber tests, and carded yarn processing tests by state and production area, processed at a card production rate of 12-1/2 pounds per hour and a twist multiplier of 4.40, crop of 1963--Continued

Area	Southwestern		
State	Central Texas		
Production area	Thrall	:	Waco
Predominant variety	Lankart 57		
Percentage of variety at gin	75	:	100
Triweekly sampling	First	:	First
RAW COTTON QUALITY	:	:	:
Grade .....designation	Mltsp	:	Mltsp
Staple length .....inches	31/32	:	29/32
Fiber length (Digital Fibrograph):	:	:	:
2.5% span length .....inches	.97	:	.91
Uniformity ratio (50/2.5) percent	44	:	43
Fiber fineness and maturity:	:	:	:
Micronaire .....reading	3.8	:	3.4
Fiber strength and elongation:	:	:	:
Zero gauge strength .....1,000 psi	82	:	89
Zero gauge strength .....grams/tex	40.6	:	44.1
1/8-inch gauge strength ...grams/tex	21.5	:	19.8
1/8-inch gauge elongation...percent	5.6	:	5.7
Shirley Analyzer:	:	:	:
Visible waste .....percent	1.1	:	1.1
Total visible & invisible..percent	2.2	:	1.8
Color of raw cotton:	:	:	:
Reflectance .....R <sub>d</sub>	75.0	:	75.0
Yellowness .....+b	9.7	:	10.2
Code .....number	503	:	453
PROCESSING RESULTS	:	:	:
Picker and card waste .....percent	7.0	:	6.9
Neps.....per 100 sq. in. of card web	40	:	23
Yarn skein strength:	:	:	:
8 s ( 73.8 tex) .....pounds	308	:	306
22 s ( 26.8 tex) .....pounds	98	:	94
Average break factor .....	2310	:	2258
Yarn skein elongation:	:	:	:
8 s ( 73.8 tex) .....percent	6.8	:	6.0
22 s ( 26.8 tex) .....percent	6.0	:	5.6
Yarn appearance:	:	:	:
8 s ( 73.8 tex) .....grade	B	:	B
22 s ( 26.8 tex) .....grade	C+	:	C+
Average yarn appearance.....index	105	:	105
Yarn imperfections:	:	:	:
8 s ( 73.8 tex) .....number	65	:	65
22 s ( 26.8 tex) .....number	44	:	37



Table 3.--Cotton: Results of classification, fiber tests, and carded yarn processing tests by state and production area, processed at a card production rate of 9-1/2 pounds per hour and a twist multiplier of 4.00, crop of 1963

Area	So. Eastern:		Southwestern	
State	Georgia :		South Texas	
Production area	Cairo	Brownsville:	Corpus C. :	Harlingen
Predominant variety	Coker 100A :	DPL 15 :	Delfos :	Stnvl 7A
Percentage of variety at gin	93 :	75 :	75 :	90
Triweekly sampling	First :	Third :	Second :	Third
RAW COTTON QUALITY				
Grade .....designation	SLM :	SLM :	Mltsp :	SLM
Staple length .....inches	1-1/16 :	1-1/32 :	31/32 :	1-1/32
Fiber length (Digital Fibrograph):	:	:	:	:
2.5% span length .....inches	1.08 :	1.03 :	.98 :	1.04
Uniformity ratio (50/2.5) .percent	46 :	43 :	41 :	47
Fiber fineness and maturity:	:	:	:	:
Micronaire .....reading	4.5 :	4.5 :	4.0 :	4.8
Fiber strength and elongation:	:	:	:	:
Zero gauge strength .....1,000 psi	81 :	75 :	80 :	79
Zero gauge strength .....grams/tex	40.2 :	37.1 :	39.6 :	39.1
1/8-inch gauge strength ...grams/tex	22.4 :	21.4 :	21.3 :	21.3
1/8-inch gauge elongation...percent	5.8 :	7.0 :	6.2 :	6.5
Shirley Analyzer:	:	:	:	:
Visible waste .....percent	2.2 :	1.3 :	1.7 :	2.1
Total visible & invisible..percent	2.4 :	2.2 :	2.7 :	3.1
Color of raw cotton:	:	:	:	:
Reflectance .....R <sub>d</sub>	73.2 :	74.5 :	73.5 :	73.1
Yellowness .....+b	8.8 :	8.6 :	9.2 :	8.6
Code .....number	602 :	552 :	553 :	602
PROCESSING RESULTS				
Picker and card waste .....percent	7.1 :	7.2 :	8.0 :	7.2
Neps.....per 100 sq. in. of card web	25 :	37 :	31 :	16
Yarn skein strength:	:	:	:	:
22 s (26.8 tex) .....pounds	112 :	98 :	91 :	104
50s (11.8 tex) .....pounds	39 :	34 :	30 :	37
Average break factor .....	2207 :	1928 :	1751 :	2069
Yarn skein elongation:	:	:	:	:
22s (26.8 tex) .....percent	6.5 :	5.6 :	5.2 :	5.8
50s (11.8 tex) .....percent	4.9 :	4.5 :	3.7 :	4.5
Yarn appearance:	:	:	:	:
22s (26.8 tex) .....grade	B :	B :	C+ :	B+
50s (11.8 tex) .....grade	C+ :	C :	C :	B
Average yarn appearance.....index	105 :	100 :	95 :	115
Yarn imperfections:	:	:	:	:
22s (26.8 tex) .....number	28 :	40 :	45 :	27
50s (11.8 tex) .....number	17 :	29 :	32 :	17

Continued on page 7



Table 3.--Cotton: Results of classification, fiber tests, and carded yarn processing tests by state and production area, processed at a card production rate of 9-1/2 pounds per hour and a twist multiplier of 4.00, crop of 1963--Continued

Area	Southwestern		
State	South Texas		
Production area	Port Lavaca	Progreso	Santa Rosa
Predominant variety	DPL Sm. Leaf	Stnvl 7A	DPL 15
Percentage of variety at gin	91	97	90
Triweekly sampling	Third	Third	Third
RAW COTTON QUALITY			
Grade .....designation	Mltsp	Mltsp	SIM
Staple length .....inches	1-1/32	1-1/32	1-1/32
Fiber length (Digital Fibrograph):			
2.5% span length .....inches	1.00	1.06	1.05
Uniformity ratio (50/2.5) .percent	45	47	45
Fiber fineness and maturity:			
Micronaire .....reading	5.0	4.4	4.3
Fiber strength and elongation:			
Zero gauge strength ....1,000 psi	78	80	79
Zero gauge strength ....grams/tex	38.6	39.6	39.1
1/8-inch gauge strength ...grams/tex	20.6	21.9	21.3
1/8-inch gauge elongation...percent	6.7	6.4	6.0
Shirley Analyzer:			
Visible waste .....percent	1.3	1.2	1.5
Total visible & invisible..percent	2.1	1.9	2.4
Color of raw cotton:			
Reflectance .....R <sub>d</sub>	72.9	75.7	75.5
Yellowness .....+b	9.5	9.2	8.4
Code .....number	553	502	552
PROCESSING RESULTS			
Picker and card waste .....percent	9.2	6.8	6.8
Neps.....per 100 sq. in. of card web	12	19	13
Yarn skein strength:			
22s ( 26.8 tex) .....pounds	97	109	111
50s ( 11.8 tex) .....pounds	34	41	41
Average break factor .....	1917	2224	2246
Yarn skein elongation:			
22s ( 26.8 tex) .....percent	5.1	5.8	5.5
50s ( 11.8 tex) .....percent	3.7	5.0	4.7
Yarn appearance:			
22s ( 26.8 tex) .....grade	B+	B+	B+
50s ( 11.8 tex) .....grade	B	C+	B
Average yarn appearance.....index	115	110	115
Yarn imperfections:			
22s ( 26.8 tex) .....number	25	20	23
50s ( 11.8 tex) .....number	18	15	13

Continued on page 8

Table 3.--Cotton: Results of classification, fiber tests, and carded yarn processing tests by state and production area, processed at a card production rate of 9-1/2 pounds per hour and a twist multiplier of 4.00, crop of 1963--Continued

Area	Southwestern		
State	South Texas	Central Texas	
Production area	Sebastian	Batesville	Sugar Land
Predominant variety	Stoneville 7A	DPL Sm. Leaf	Stoneville 7A
Percentage of variety at gin	87	95	85
Triweekly sampling	Third	First	Second
RAW COTTON QUALITY			
Grade .....designation	SLM	M	M
Staple length .....inches	1-1/32	1-1/16	1-1/16
Fiber length (Digital Fibrograph):			
2.5% span length .....inches	1.03	1.09	1.08
Uniformity ratio (50/2.5) .percent	46	43	44
Fiber fineness and maturity:			
Micronaire .....reading	4.8	4.4	4.7
Fiber strength and elongation:			
Zero gauge strength .....1,000 psi	78	80	84
Zero gauge strength .....grams/tex	38.6	39.6	41.6
1/8-inch gauge strength ...grams/tex	20.6	23.0	21.4
1/8-inch gauge elongation...percent	6.1	7.8	5.7
Shirley Analyzer:			
Visible waste .....percent	1.2	0.8	1.6
Total visible & invisible..percent	2.0	1.8	2.4
Color of raw cotton:			
Reflectance .....R <sub>d</sub>	74.0	79.1	77.7
Yellowness .....+b	9.3	8.7	9.2
Code .....number	553	451	452
PROCESSING RESULTS			
Picker and card waste .....percent	6.6	5.9	6.2
Neps.....per 100 sq. in. of card web	16	22	16
Yarn skein strength:			
22s ( 26.8 tex) .....pounds	101	112	112
50s ( 11.8 tex) .....pounds	35	40	40
Average break factor .....	1986	2232	2232
Yarn skein elongation:			
22s ( 26.8 tex) .....percent	5.4	6.3	5.6
50s ( 11.8 tex) .....percent	4.5	5.1	4.6
Yarn appearance:			
22s ( 26.8 tex) .....grade	B+	B+	B+
50s ( 11.8 tex) .....grade	C+	C+	C+
Average yarn appearance.....index	110	110	110
Yarn imperfections:			
22s ( 26.8 tex) .....number	22	26	21
50s ( 11.8 tex) .....number	16	22	16